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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/071,301	02/08/2002	Eiji Hamamoto	020588	1113

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EXAMINER

HON, SOW FUN

ART UNIT PAPER NUMBER

1772

8

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/071,301

Applicant(s)

HAMAMOTO ET AL.

Examiner

Sow-Fun Hon

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 August 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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**DETAILED ACTION**

***Response to Amendment***

***Withdrawn Rejections***

1. The 112,2<sup>nd</sup> paragraph rejections in Paper # 6 (mailed 05/03/03) have been withdrawn due to Applicant's amendment and affirmation in Paper # 7 (filed 08/29/03) of the broad interpretation of the claims.
2. The 103(a) rejection in Paper # 6 (mailed 05/03/03) of claims 6-7 over Wada et al. in view of Hopper et al. has been withdrawn due to Applicant's amendment in Paper # 7 (filed 08/29/03).

***Rejections Repeated***

3. The 35 U.S.C. 102(b) and 103(a) rejections of claims 1-5 and 8 over Hopper et al. as the primary reference have been repeated for the same reasons previously of record in Paper # 6 (mailed 05/03/03).

***New Rejections***

***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shulman et al. (4,545,648) in view of Hopper et al.

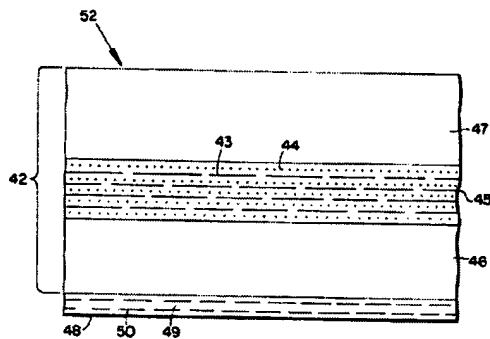


FIG 3

Shulman et al. has a polarizer element in a liquid crystal display (column 4, lines 1-45) which comprises an additional optical layer which is semitransparent reflective (transflector layer 48) on a polarizing plate (polarizer element 42) comprising a polyvinyl alcohol-based polarizing film containing a dichroic substance (iodine) and a transparent protective film bonded to at least one surface of the polyvinyl alcohol-based polarizing film 42 (transparent isotropic plastic sheets 46 and 47) (column 7, lines 20-40). Water-soluble polyvinyl alcohol is the preferred adhesive (binder medium) (column 4, lines 25-45).

Shulman et al. fails to teach that the water-soluble polyvinyl alcohol adhesive contains a water-soluble crosslinking agent capable of crosslinking a vinyl alcohol-based polymer.

Hopper et al. has a polarizing plate (polarizer) comprising a polyvinyl alcohol-based polarizing film containing a dichroic substance (iodine) (column 1, lines 5-15) and a transparent polyester-based film bonded to at least one surface of the polyvinyl alcohol-based polarizing film through an adhesive layer.

Since the polyvinyl alcohol adhesive layer between the polyvinyl alcohol film and the polyester substrate laminate (column 2, lines 20-65) is passed through the water-soluble boric acid aqueous solution as part of the laminate (column 6, lines 5-10), it follows that the polyvinyl

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adhesive layer picks up and comprises the water-soluble boric acid crosslinking agent capable of crosslinking a vinyl alcohol-based polymer.

The laminate is a polarizing plate arranged on at least one surface of the liquid crystal cell in a liquid crystal display (polarizer carrier sheet or cover for a liquid crystal display) (column 4, lines 1-5).

Hopper et al. teaches that the boric acid cross-linking agent crosslinks the polyvinyl alcohol (PVA) in order to provide it with hydrolytic stability (column 2, lines 10-55).

Since Hopper et al. teaches that the water-soluble boric acid crosslinking agent crosslinks the polyvinyl alcohol in order to provide it with hydrolytic stability, it would have been obvious to one of ordinary skill in the art to have put the water-soluble crosslinking agent in the polyvinyl alcohol portion of the laminate polarizer in the invention of Shulman et al. in order to obtain a polarizer element with the desired hydrolytic stability.

5. Claims 9-12, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hopper et al.

Hopper et al. has a polarizing plate (polarizer) comprising a polyvinyl alcohol-based polarizing film containing a dichroic substance (iodine) (column 1, lines 5-15) and a transparent polyester-based film bonded to at least one surface of the polyvinyl alcohol-based polarizing film through an adhesive layer. Since the polyvinyl alcohol adhesive layer between the polyvinyl alcohol film and the polyester substrate laminate (column 2, lines 20-65) is passed through the water-soluble boric acid aqueous solution as part of the laminate (column 6, lines 5-10), it follows that the polyvinyl adhesive layer picks up and comprises the water-soluble boric acid crosslinking agent capable of crosslinking a vinyl alcohol-based polymer. The laminate is a

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polarizing plate arranged on at least one surface of the liquid crystal cell in a liquid crystal display (polarizer carrier sheet or cover for a liquid crystal display) (column 4, lines 1-5).

Hopper et al. teaches that the boric acid cross-linking agent crosslinks the polyvinyl alcohol in order to provide it with hydrolytic stability (column 2, lines 10-55).

Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). In the instant case, the final product is the polarizer laminate comprising a polyvinyl alcohol adhesive layer containing the water-soluble crosslinking agent picked up from the 5 % borax and 15 % boric acid aqueous solution (column 6, lines 35-55).

Although Hopper et al. fails to teach the thickness of the adhesive layer, in the absence of a showing of unexpected results, it is the examiner's position that the claimed thickness of at most 0.5 microns or the claimed thickness of at least 0.02 microns are the results of routine experimentation.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buzzell et al.

Buzzell teaches a process of producing a polarizing plate (film) (column 1, lines 10-20) comprising a polyvinyl alcohol-based polarizing film 22 and a transparent protective film (transparent, cellulose acetate base 20) bonded to at least one surface of the polyvinyl alcohol-based polarizing film. The adhesive layer is a 1-2 % solution of polyvinyl alcohol (column 4,

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lines 25-70). The polyvinyl alcohol-based polarizing film contains a dichroic substance (dye) (column 1, lines 60-75).

Buzzell fails to teach that the adhesive layer contains a water-soluble crosslinking agent capable of crosslinking the vinyl alcohol-based polymer to the polarizing film.

However, since Buzzell teaches that water-soluble boric acid crosslinking agent is added to the polyvinyl alcohol solution for the the polarizing film (column 5, lines 35-75), it would have been obvious to one of ordinary skill in the art to have added water-soluble crosslinking agent to the polyvinyl alcohol solution for the adhesive layer in order to obtain a process of producing a polarizing plate which comprises the step of applying an adhesive layer comprising a water-soluble crosslinking agent capable of crosslinking a vinyl alcohol-based polymer to the polarizing film; and bonding the transparent protective film to the polarizing film.

### ***Response to Arguments***

5. Applicant's arguments filed 08/29/03 with regards to the valid use of Hopper et al. as the primary reference have been fully considered but they are not persuasive.

6. Applicant argues that uptake of the boric acid from the solution by the PVA adhesive layer is only possible if the PVA layer has an exposed surface. Applicant is respectfully reminded that since the water-soluble PVA adhesive layer is also of PVA, migration of the water-soluble boric acid from the PVA layer into the PVA layer-contacting water-soluble PVA adhesive layer occurs, as supported by Hopper et al. Hopper et al. does not teach that only the exposed PVA film surface is stabilized by the boronic treatment. Instead, Hopper et al. teaches that the PVA film portion is stabilized (column 6, lines 5-45). The term "PVA film portion"

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denotes the portion of the film laminate which comprises PVA and thus includes the PVA film adhesive when the adhesive layer is PVA.

### *Conclusion*

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9311.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

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Sow-Fun Hon  
10/10/03

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772 10/10/03